

Modes, Models, and Momentum (M³) Decision-Making: Entrepreneurs collaborating on Complex Problems

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ABSTRACT

M³ theory introduces a descriptive framework for entrepreneurial innovation through collaboration in pursuit of solutions to more complex market problems. Through a Social Realism epistemological lens, M³ coding presents complex strategic positions as essentialist (via modes), relative (via models), and dynamic (via momentum) to plot the dynamic trajectory of innovation transmuting over time. At a fundamental level, the M³ theory identifies a consistent set of rules that decision-makers intentionally or unintentionally engage with or ignore to take strategic positions based on four integrated yet polarized pairs of modes: +S, +R, and +C, +D. Systematic (+S) vs. responsive (+R) strategies juxtaposed the tension of processes dedicated to increasingly sophisticated +S bounded rational cognitive processes; planning, compartmentalizing, regulating emotions, against increasingly +R sensitized intuiting; reflectivity, associating, emotionally expressive action. The second pair, conforming (+C), vs. differentiating (+D) strategies. intersects but expresses the tension between +C's converging; through adapting or conveying socially perceived superior norms, or exploiting existing resources and power, against +D's departure from traditional norms; with exploration, novelty-seeking, sabotage, risk-taking, experimentation, play, flexibility, discovery. Finally, dynamism (momentum) informs how strategic modes and models of decision-making improve and adjust in sophistication under the pressure and demands of the four drives (+L). The M³ theory is informed by three distinct but interrelated and simultaneous empirical streams of data: (i) field data from five ethnographic case studies, with research participant feedback loops; (ii) the mapping of 200+ peer-reviewed decision-making models; and (iii) prototyping the principles in the construction of the emergent M³ theory.

Keywords: M3 Decision Framework, Social Realism, Strategy and organization; Sustainability and social responsibility; Qualitative.

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1. INTRODUCTION

Despite the valuable scholarly discussion in entrepreneurship literature on “entrepreneurial personality” and other frameworks that put a singular entrepreneurial hero at the center of the decision-making process, the urgency is heightening to increase our inquiry into collaborative intra-organizational and inter-organizational collaborations for wealth-creation processes in entrepreneurial literature. As technological advancement continues to provide broader access to processing tools, transportation, communication, and information, as well as spur network effects of impact, so too, scholarly inquiry into increasingly complex types of problem-solving that result from collaborative processes and multiple interests. In Alford and Head’s (2017) contribution to problem-solving frameworks, they frame “tame problems” as market problems with clear solutions that all stakeholders can agree on. Collaborations are cooperative or, at worst, indifferent. Entrepreneurial literature is a process guide for tackling these simple problems, and so an opportunity exists to also build models for more complex entrepreneurial innovation processes by specifically looking at collaborations that are necessary for more complex problems.

In this study we map a descriptive framework for specifically collaborative strategic decision-making under uncertainty by empirically studying the behavior of five different collaborations of world-class innovators as they pursue new opportunities over several years in the fields of complex contracting (C1), open higher education (C2), multi-generational unemployment (C3), health and safety training software platforms (C4) and mindfulness and resilience after trauma (C5).

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2. LITERATURE REVIEW

In his seminal 2002 Harvard Business Review article, Peter Drucker defined entrepreneurial innovation as the means by which the entrepreneur either creates new wealth-producing resources or endows existing resources with enhanced potential for creating additional market value. He was furthermore clear that he frames entrepreneurship not as a description of the size or age of an organization, but rather the type of activity that decision-maker(s) engage in. For Drucker, entrepreneurship thus extends beyond that of an all-new startup whose processes would almost always be designed around creating a purposeful, focused change in a venture's economic and social potential, to also include exciting and experienced ventures in pursuit of innovation.

The M³ Theory's unique contribution to entrepreneurial strategy literature lies within the descriptive framework of modes, models, and momentum that collaborators engage in during decision-making processes in their pursuit of a new collective market solution. Alford and Head (2017:402) identified a spectrum of possible problem types (Figure 1) ranging from simple to wicked as complexity increases. Each of the five coalitions in this study is thus less concerned with addressing tame entrepreneurial innovation processes, but rather concerned with more complex types of problems to innovate. This is typical of entrepreneurial innovation collaborations as they seek to tackle challenges that are harder or impossible for a solo entrepreneur to attain.

The collaborators' field of problems can be classified as more or less complex based on four questions related to the agreement on the framing of the problem and solution of the problem, as well as the stakeholder or institutional access to information, and, more complexly, the values and interests of the stakeholders and institutions. In this study, all five collaborations would be categorically more complex than a 'tame' problem.

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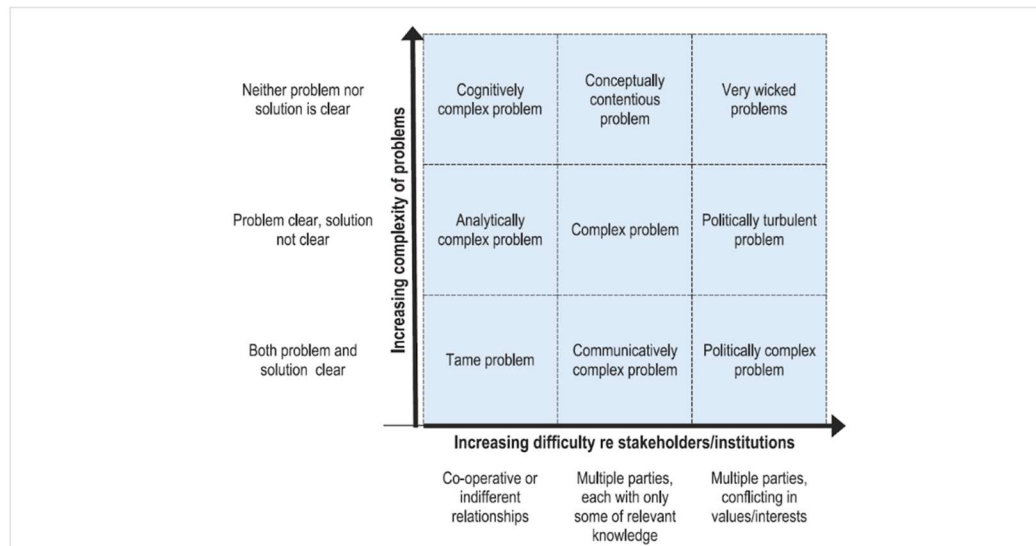


Figure 1. Alternative Types of Complex Problems (Alfred & Head, 2017)

2.1. Decision-Making Modes - Level 1

In reviewing decision theory and individual decision-making uncertainty across multiple fields in relation to the study's empirical data, an 'anchor model' as pictured in Figure 2 was constructed as the strongest baseline to explain the first of the three basic tenets of the M³ integrative model for collaborative decision-making at its broadest base.

I. Daniel Kahneman and Amos Tversky's work on System I and System II decision making.

M³ builds on this theory by referring to the modes respectively as Responsive (+R) versus Systematic (+S) strategies.

II. James G. March's work on Exploration and Exploitation. M³ will be referring to these modes respectively as a Conforming (+C) versus a Differentiating (+D) strategy.

III. Nelson & Winter's work on Evolutionary Economics, moving static modes and models to integrate dynamic elements in strategy and change (+L).

Though each of the three fundamental frameworks is widely considered as seminal in its own right, this is the first study to present them as a unified decision-making model.

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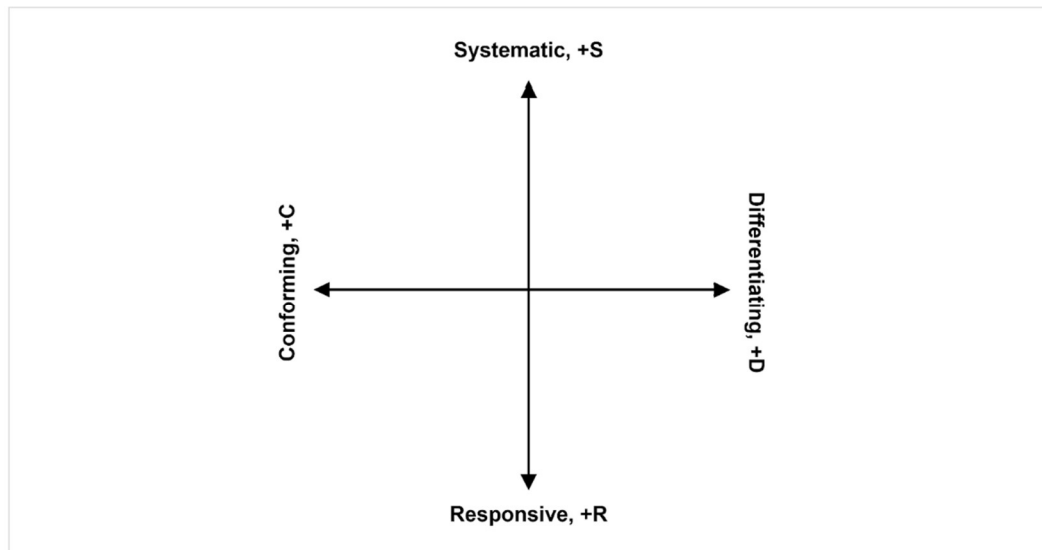


Figure 2. Decision-Making Modes

2.2. Decision-Making Models - Level 2

The next level of insight overlays a next class of decision theories and models onto the ‘anchor’ models as depicted in Figure 3. Over the course of this study’s development, four classifications of theoretical lenses explained the quadrants of the intersection anchor models. Though researchers (and their methodology) took sharp divides on ontological and epistemological components of what constitutes truth, all were accepted at the fundamental level of having contributed to furthering human knowledge in the field of decision-making. The four lenses are mapped in Figure 3.

2.2.1. Classic rational decision-making theories (+Q1) – are concerned with making logically sound decisions by conforming to multi-step processes following a rational, orderly, and linear path from problem identification through solution. These include utility functions and axioms. It also most closely aligns with risk decisions relative to uncertainty decisions. Pioneering complex rational decision-making theorists commenced with Blaise Pascal (1670) with his *Famous Wager*, and Daniel Bernoulli (1738) with the *St. Petersburg Paradox*.

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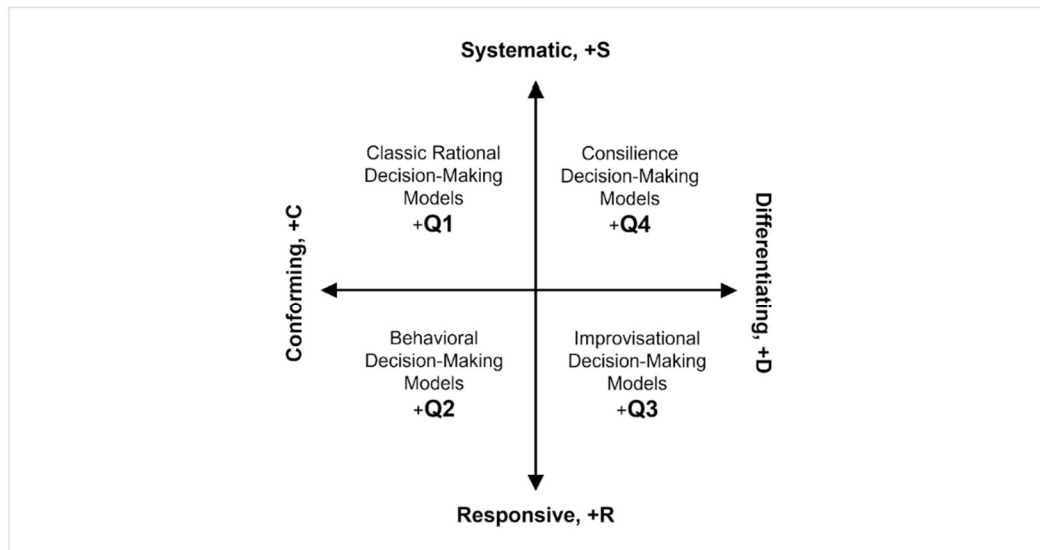


Figure 3. Decision-Making Models

2.2.2. Bounded Rationality decision-making theories (+Q2) – recognize human decision-making’s limitations concerning available information, time, processing ability, and place a premium on the schemas and mental shortcuts to prevent information overload. This includes the use of social cues and sensitivity to loyalty, trust, and the pursuit of outcomes that are sufficient to meet a minimum qualification threshold. Pioneering behavioral decision-making theorists include Nobel laureate Herbert A. Simon (1957) introduced the models’ central tenets of *bounded-rationality* and *satisficing*, and Charles Edward Lindblom (1959), who introduced *gradualism*.

2.2.3. Improvisational decision-making theories (+Q3) – is “bringing to the surface, testing, and restructuring one’s intuitive understanding of phenomena on the spot, at a time when action can still make a difference” (Weick, 1996: 147). In spite of findings (Kahneman and Tversky, 1979) that humans are generally risk-averse, purposeful decision-making strategies do exist where a strategic stance is taken in pursuit of higher levels of uncertainty. Higher levels of innovation are often at the core of these strategic stances as strategic decision makers respond in real-time to changes and information that might not be fully anticipated. It would be

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synonymous with what is commonly referred to in music or theatre as *improvisation*. Pioneering management scholars introducing the terminology into management literature include Moorman and Miner (1998) and Cunha, Cunha, and Kamoche (1999). Improvisation is also generally accepted to include *bricolage* (Lévi-Strauss, 1967; Baker et al., 2003; Garud & Karnøe, 2003), *adaptation* (Campbell, 1969; Stein, 1989), and *serendipity* (Merton, 2002) in dealing with change and ambiguity.

2.2.4. Consilience decision-making theories (+Q4) – are decision-making under uncertainty that unifies knowledge. It is the intentional and simultaneous process of creating and destroying something else of value by the same group of decision-makers. Like *Improvisation* models, a strategic stance of “higher rewards with least volatility” is left on the table, but specifically in Consilience Decision-Making Models, this is because the chance of a longer-term or more important objectives are more attractive. Often, the probability of success may be smaller; however, if successful, this strategy would have had the capacity for an exponential influence on a greater impact relative to the more common linear and incremental innovation level. And though 20/20 hindsight accounts of history, Hollywood, and the media have made legends out of persons demonstrating these outlier decisions, they remain rare and uncommon in bigger organizations with strong political infrastructure. Though this more extreme uncertainty decision model option is not as commonly modeled by decision-making theorists as in American pop culture, there has, however, been a considerable uptake in recent years of strategy theorists contributing models to the development of strategic stances that purposefully pursue solutions in uncertain and changing environments. In Management Studies, much of the work of Clay Christensen's (1997) *Disruptive Innovation* and Otto Scharmer's (1999) *Theory U* makes contributions to this quadrant. High-level *post-conventionalism ethical decision-making* (Kohlberg, 1957) would be another example. As the word ‘consilience’ suggests, it is an integration of knowledge across different fields (as is needed

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from entrepreneurial collaborations to tackle more complex problems) that also equips this study with terminology beyond management literature to express the most mysterious quadrant of complex decision-making.

2.3. Decision-Making Momentum - Level 3 Evolutionary Economics

Management strategy scholars like Henry Mintzberg's (1978) *Emergent strategies* proved highly relevant in bridging the Theory-Practice divide, where decision modes and models evolve based on what is learned in the field. Moncrief's (1997) *Strategy Dynamics* similarly explains the dynamic interplay between the systems (or quadrants) development and progress as the decision-making landscape evolves. But fundamentally, it is Richard Nelson and Sidney G. Winter's (1982) *Evolutionary Economics* framework that, at this time, offers the most robust framework on how organizations replicate and destroy routines, and discusses briefly how firms can "learn" new routines through imitations of other routines, which allows for factors associated with "new routines" to be considered. This process of learning, changing, and adapting ultimately anchors the dynamic component of momentum in how decision-making changes over time for the M³ Theory.

As pictured in Figure 4, the phase transitions brought on by stepping up on 'knowledge' levels of decision-making during entrepreneurial innovation can be referred to as Levels (+L). These would be "best of" blueprints and apply equally to social and technical (non-social) engineering and experimentation as a simplified representation of the Fibonacci as a radiating circle on the four drives.

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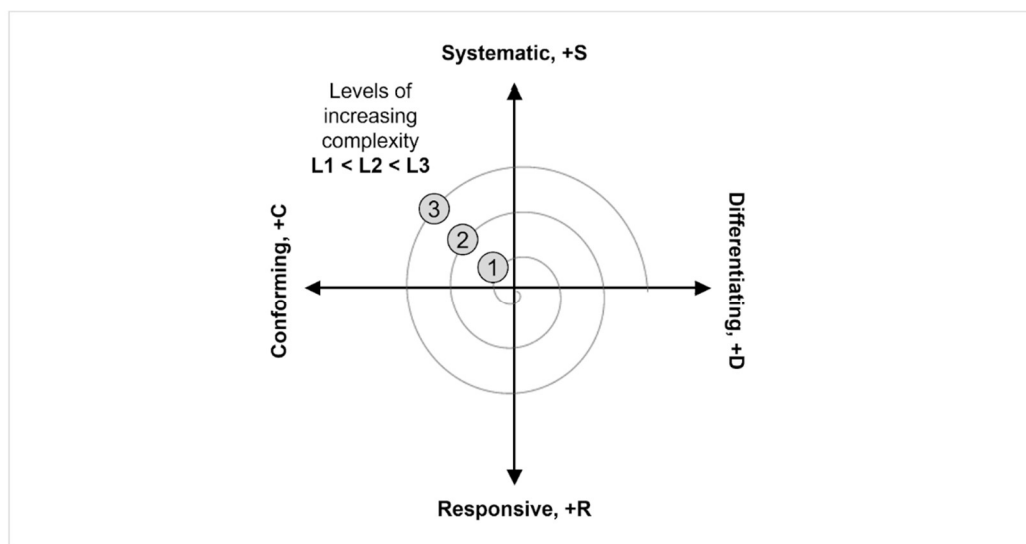


Figure 4. Decision-Making Momentum

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197 3. METHODOLOGY

198 This study is in pursuit of 'holistic real-world answer to real world problems,' to build a
 199 *descriptive model (or positive model building)* (Bazerman, 2006: 6-7) for entrepreneurial
 200 innovation decision-making that also considers the bounded ways (as opposed to only
 201 rationalized ways) in which collaborative decisions are made. In alignment with Eldabi et al's
 202 (2002) and many others' assertion that the contextual understanding of qualitative research
 203 provides a systematic, empirical strategy for answering questions about people in their own
 204 bounded social context yet also offers a direct and in-depth pursuit of knowledge of the research
 205 setting or set culture still some limitations. In many respects, during the idea development of
 206 inter-organizational deliberations, new rules of the game are drawn up in the process of
 207 collaborating. The researcher and strategic decision-maker (participant) in such a context thus
 208 has a similar learning curve stepping into a new working culture. To address this concern, the
 209 study draws from an epistemology in the discipline of sociology of education, social realism

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(Maton & Moore, 2010), which allows for data to be both positivist and relative at the same time.

3.1. Methodological principles and research design

The epistemology is rooted in the fusion of the 'field' theories of Pierre Bourdieu (1994, 1996) and 'code' theory of Basil Bernstein (1977, 1990), social realism highlights knowledge as a social field of practice arguing that the choice between essentialism and relativism is false: we can say that knowledge is historically and socially situational and shaped by struggles among social groups without saying this also means knowledge is equal and its status is merely a reflection of social power. Social realism acknowledges that knowledge changes and is shaped by relations of power but maintains that this is not the whole story. Not all knowledge claims are equal - some are more epistemologically powerful and offer better explanations than others (Moore, 2009). Exploring the collective procedures whereby judgments of the comparative value of knowledge claims are made has thus been a central and ongoing focus of social realist research.

A central (and seminal) example of a social realist framework is Legitimation Code Theory (LCT) (Maton, 2013). Just like the M³ codes that will be unpacked in this study, LCT is less a set of claims about the nature or purpose of knowledge and more a conceptual toolkit for research. The framework allows research to get beneath the surface features of empirical situations to explore their organizing principles or 'codes'. A useful analogy is to think of the genetic code that lies behind all our differences and similarities, such as height, weight, and so on. LCT aims to get at the genetic code of practices, to reveal the fundamental 'rules of the game' or basis of achievement ('legitimation') of different contexts, the way they develop over time, what they enable or constrain, and how they relate to the dispositions actors bring to those contexts. M³ codes will express inherent values or interests underscoring decision-making in the same way.

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The phenomenological ontology integrates a world of people and a world of objects. Specifically, in the world of ideas driven by a philosophy of strategic stances with a predominant predisposition towards decision-making under uncertainty. With inquiry primarily concerned with the systematic reflection on and study of the structures of consciousness and the phenomena that appear in acts of consciousness, Husserl's (1970) framework lends itself well to focusing attention on the deeply embedded frameworks of tacitly known, taken-for-granted assumptions through which humans make sense of their lives (Yanow, 2006:15).

3.2. The research process

In answering "*How should the research study go about finding out knowledge?*" one of the first methodological iterations to emerge was Mintzberg's doctoral thesis, which also happened to be a seminal 'structural observation' leading to a new model on the ten roles of a manager (1973). Using naturalistic research methods, he embedded for one week with five different executive decision makers to document their 368 verbal interactions (observations) and 890 correspondence artifacts (archived material) that they came in contact with over the time of observation. Similarly, this study relies on i) observations, ii) interviews (or conversations), and iii) archived material as data sources. This is common in ethnographic methodologies.

Using a single full-participant fieldworker committing to confessional ethnography (Van Maanen, 1988) or vulnerable writing (Behar, 1996), a balance of the subjective and objective world is explored to fully immerse oneself in both the rational and affective components associated with dealing with uncertainty. This unifying constant of a single individual furthermore serves as a data point for comparisons across the different case studies' collaborations and increases the relative value of each case study relative to the full participant (Barbour, 2014). This is also consistent with the principles of social realism, where essentialism and relativism can and do combine in the construct of knowledge and truth.

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In the context of this specific study, the ethnographic narrative is presented similarly to the ‘portrait’ style pioneered by Willis (1981) and Foley (1990). In a multi-year undertaking, five international entrepreneurial innovation collaborations from diverse disciplines, each tackling a complex problem, were allowed to be a part of this study. Key strategic decision-makers on each of the collaborations represented a deviance sample of experienced and respected leaders in their respective fields. In the ethnographic presentation, each collaboration’s development is captured with eight ‘snapshots’ capturing the most pivotal decisional moments of each collaboration. Each snapshot reveals in detail the conditions under which the central idea underwent a dramatic or iterative transformation (or in some instances boldly reinforced an existing stance).

3.3. Construction of well-informed impressions

To assure that each snapshot is a well-informed impression this study put three important checks in place: i) by cross-checking between different data sources as could be viably secured; ii) involving participant participation in the construction of the strategic socio-cognitive factors; and iii) involving multiple entrepreneurial innovators from each of the five collaborations in closing the feedback loop on the written summary of the ethnography. Participants were invited to correct content details, recommend alternative important focus points, and weigh in on the dominant strategic models if they felt comfortable weighing in. All changes that were recommended were included in the final draft of this paper. Recommended changes centrally involved alterations concerned with enhancing or diminishing anonymity.

3.4. Analysis and conceptual development

In response to Francis's (1992) and Myers' (2013) concerns that ethnography is subject to

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personal interpretation and observer bias, a rigorous 24-step analysis plan was designed and implemented.

Step 1: Fieldworker amasses data (+R, +D)

Step 2: Fieldworker frames data for analysis (+R, +C)

Step 3: Researcher reads and codes data (+S, +C)

Step 4: Researcher cross-examination (+S, +D)

Step 5: Fieldworker constructs the narrative report (+R, +D)

Step 6: Fieldworker constructs reviewable narrative draft (+R, +C)

Step 7: The researcher sets evaluation criteria on quality (+S, +C)

Step 8-11: Participants review data & codes (+S, +R, +C, +D)

Steps 12-15: Researcher integrates participant feedback (+S, +R, +C, +D)

Steps 16-19: Non-participant strategic decision-makers review model & theory (+S, +R, +C, +D)

Steps 20-23: Researcher integrates non-participant feedback (+S, +R, +C, +D)

Steps 24: Transformed Theory in practice (+S, +R, +C, +D)

By triangulating not only data sources but also cross-referencing with participants, theorists, researchers, and practitioners unrelated to the project, chances of data distortions and interpretations were diminished.

Ultimately, predominantly qualitative methods like this produce a wealth of detailed data on a small number of [phenomena] (Patton, 1991). Yet, the fact that qualitative research takes a less planned approach (Eldabi et al, 2002) is ultimately one of the most important and attractive qualities in the context of naturally researching decision-making of emergent innovation. The fact that it has more of a preference towards judgmental and expert knowledge rather than hard data is less attractive. In this study, extensive effort was put forth to patch the holes of qualitative research with quantitative supporting materials across the multitude of case studies. Also, formal logic of deductive reasoning combined with induction was used to explore categorical, relative, as well as dynamic trajectory patterns to inform the model, and theory

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development of strategic decision-making under uncertainty, as well as practical application in management and research. Ultimately, the research methodology both integrates and mimics the post-normal science decision-making frameworks wherein the role of science is still essential as an approach to problem-solving strategies but is now appreciated in its full context of the uncertainties of natural systems and the relevance of human value.” (Funtowicz & Ravetz, 2001).

4. EMPIRICAL DATA SUMMARY

4.1. Collaboration 1: Corporate General Counsel (C1)

Collaboration 1: Corporate Counsel's problem				
Shot	Name	Day	Change	Drive
0	Exposition	1		
1	Power Voices on and off the conference call	10	Use the Microsoft blueprint	(+S, +C)
2	The 'How do you eat an elephant?' Debate	20	Stay on incrementalism	(+S, +C)
3	The Compartmentalizing Email	46	Move to aggr. timeline & partnership level	(+S, +C)
4	The "Buyer-side" Principles documented	195	Move to online workshop	(+S, +C)
5	The Launch of "Supplier-side" Principles	217	Move to 1-on-1 supply-side	(+S, +C)
6	Opening the Telecommunications Line	250	Move to add telecom sector	(+S, +C)
7	Coffee with the President	255	Move to add energy sector	(+S, +C)
8	Orange Juice with the Board Director	256	Top Strategists are different?	(+R, +D) & (+S, +D)

* Line represent chronology on the emergence of the fundamentals of the M³ theory relative to empirical data collected.

Table 1. Collaboration 1's Strategic stances changing over time

The first team of entrepreneurial collaborators (C1) was spearheaded by an International Association President (an ex-Multinational Company executive) and the corporate legal counsel of one of the biggest banks in the world. In 2012, the collaboration set out to get 7-10 diverse multinational companies (MNCs)' general councils to desensitize and anonymize and ultimately share non-sensitive components of their contracting policies in search of standardized contracting principles. Table 1 summarizes the ethnography's eight snapshots and the resulting M³ codes.

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4.2. Collaboration 2: Higher Education (C2)

Collaboration 2: Higher Education's problem				
Snap	Name	Day	Change	Code
0	Exposition	1		
1	Boardroom table with Faculty Heads	16	Stay the course	-
2	The Press Release Surprise	35	Change to MOOC Partnership	(+R, +D)
3	Keeping up with the Joneses meeting	135	Change alternative Edu on Homepage	(+R, +D)
4	The "Low Hanging Fruit" meeting	212	Change to small short-term controlled	(+R, +C)
5	The Final Blackburn Off-Site Meeting	257	Change to Journey mapping workshop	(+R, +C)
6	The Journey Mapping Workshop	331	Change to longer-term, system changes	(+S, +D)
7	The Final Steering Committee Meeting	376	No change in the large group	(+R, +C)
8	The greenlit MBA Program Developments	630	Change to independent project pulled back in	(+R, +C)

* Line represent chronology on the emergence of the fundamentals of the M³ theory relative to empirical data collected.

Table 2. Collaboration 2's Strategic stances changing over time

The 2012 academic year marked a major phase transition for British Universities as a new law opened a floodgate of global students' interest and enrollment. This change also coincided with increased domestic student tuition and the long-term implications of undergraduates being more likely to graduate with debt. In response, one of the 24 prestigious research-intensive Russell Group Universities started to assemble a coalition (C2) to map a response to the changing learning landscape. Table 2 summarizes the ethnography's eight snapshots and the resulting M³ codes.

The third group of collaborating entrepreneurial innovators included an impressive tapestry of social entrepreneurs, economic developers, elected officials, board members, educators, and leaders in various industries (C3). In sitting down and recording conversations and interactions of 50+ participating stakeholders, a unified reason for involvement is conspicuously absent. But fundamentally, C3 circled a localized wicked problem of multi-generational unemployment in a metropolitan area in the north of England. Table 3 summarizes the ethnography's eight snapshots and the resulting M³ codes.

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4.3. Collaboration 3: Social Entrepreneurs (C3)

Collaboration 3: Social Entrepreneurs' problem				
Snap	Name	Day	Change	Code
0	Exposition	1		
1	Getting into a Locked Room	464	Change of including [2] leaders define interests	(+R, +D)
2	Impromptu academics conferencing	703	Change of including [2] more leaders define interests	(+R, +C)
3	The risk and the cafeteria plan	723	Change of including [2] more leaders define interests	(+R, +D)
4	The 'White Knight' Two-day Workshop	736 & 737	Change of including [47] more individuals' interest	(+R, +D)
5	The Design Factory	738	Change of narrowing idea	(+R, +C)
6	Meeting with the Guru	743	Change in techniques for getting heavy hitters	(+R, +C)
7	Room with the coffee machine	828	Change in content focus	(+R, +C)
8	The Social Enterprise Designation	1506	Change in Leadership	(+R, +C)

* Line represent chronology on the emergence of the fundamentals of the M³ theory relative to empirical data collected.

Table 3. Collaboration 3's Strategic stances changing over time

4.4. Collaboration 4 Software Startup (C4)

Collaboration 4: Software Start-up's problem				
Snap	Name	Day	Change	Code
0	Exposition	1		
1	Winning a Two-in-One Prize	83	Changed the resource pool	(+R, +D)
2	Guitar with a Broken Bridge	153	Changed to development self-reliance	(+R, +D)
3	Finding a New Port of Entry	337	Changed target Uni pursuit focus	(+R, +D)
4	Drinking from the Fire Department watering hose	184	Changed target sector pursuit focus	(+R, +D)
5	Biggest hospital in Europe lifts the fire curtain	276	Changed target industry pursuit focus	(+R, +D)
6	Biggest Fire College needs emergency videographer	418	Changed target resource pursuit focus	(+R, +D)
7	The Founding of a new media company	549	Changed target customers focus	(+R, +D)
8	The Overheated Computer	805	Changed target function pursuit focus	(+S, +C)

* Line represent chronology on the emergence of the fundamentals of the M³ theory relative to empirical data collected.

Table 4. Collaboration 4's Strategic stances changing over time

In 2012, a Welsh Manufacturing Executive also found himself laid off, in spite of pioneering what he reported as 10x growth for a £200 million profit plant during the subprime mortgage crisis. His response was to shift his attention to technology and specifically found a software startup that provides Health and Safety training solutions for the industry. Though he understood the need for compliance in industry, he was not a software developer, videographer,

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or technical expert in the field, and needed the collaborators to execute on the vision. Table 4 summarizes the ethnography's eight snapshots and the resulting M³ codes.

4.5. Collaboration 5: Healthcare

Collaboration 5: Healthcare's problem				
Snap	Name	Day	Change	Code
0	Exposition	1		
1	The Aneurism	-699	Need to focus on the whole person	(+S, +D)
2	The First \$20,000 raised	-28	Change Ideas on where the money may be	(+R, +D)
3	The \$10 million chandelier	7	Changed the relationship to a legal one'	(+R, +C)
4	The media darling	47	Changed perception of partner's reputation	(+R, +C)
5	"Building Faster Horses" Workshop	73	Changed perception to a 360 view	(+S, +R, +C, +D)
6	The Neighbourhood Community workshops	210	Developed responsive and adaptive skills	(+R, +D)
7	Eulogy for a Dead Corporate Wellness Plan	294	Changed perception of Corporate Model	(+R, +C)
8	The Global Wellness Network germinates	240	Developed systematic and adaptive skills	(+S, +D)

* Line represent chronology on the emergence of the fundamentals of the M³ theory relative to empirical data collected.

Table 5. Collaboration 5's Strategic stances changing over time

Similarly, the economic crisis exacerbated stress levels and increased workload demands on workers (not to mention stress on laid-off workers seeking to re-enter the workforce). So a collaboration between healthcare professionals emerged to try and facilitate a paradigm shift that can scale nonlinearly beyond the one-to-one traditional medical framework. Collaboration also sought solutions to mitigate responses to trauma by equipping people with responsive toolkits *before* a trauma occurs. Table 5 summarizes the ethnography's eight snapshots and the resulting M³ codes.

5. FINDINGS

In coding and reflecting on the empirical data of the five collaborations' entrepreneurial innovation over the course of several years, three different types of themes emerged: A) categorical data as distinct from relational; B) relational data where a natural predisposition in

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to dealing with uncertainties intersects with a stimulus that demands specific type of decision-making responses; and C) dynamic changes that tracks evolution of decisions over several year of working on a single problem. The M³ model is a result of the absorption of the three themes.

5.1. Theme A: Modes - mapping categorical communication mediums

In 'theme A', the dominant modes allowed for the analysis of essentialist and absolute categories. Specifically in this study, communication mediums emerged as a vivid example of how counting, separating and grouping artifacts in a distinct taxonomy. can be of value. A summary is depicted in Figure 5.

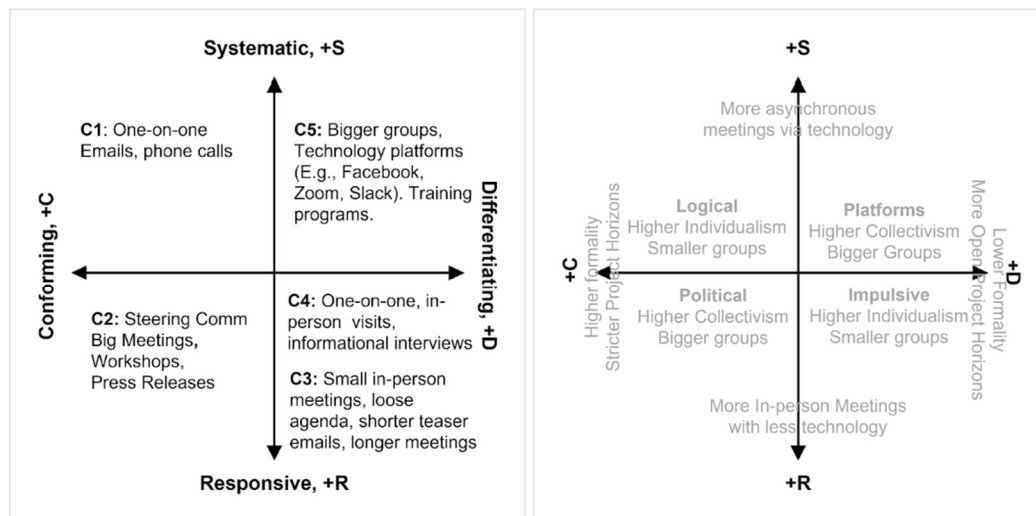


Figure 5. Theme A: Modes - mapping categorical communication mediums.

In Collaboration 1: Corporate General Counsel, the dominant mode of communication via email isolated participants from each other and diminished socio-political factors impacting feedback when emails were further anonymized, resulting in a dominant drive of coded: +S, +C. In Collaboration 2: Higher Education, the dominant mode of communicating was via big group gatherings with a clear, structured agenda. It also made use of outside informants, revealing to the group new and important information which increased socio-political factors and expectations in a controlled manner, resulting in a dominant drive of coded: +R, +C. In Collaboration 3: Social Entrepreneurship, the dominant mode of communication was via small

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group gatherings with an unstructured and informal agenda maintained by a small group of decision-makers in the background, controlling the possibility for new and different input resulting in impact in a dominant drive of coded: +R, +D (relative to C2). In Collaboration 4: Software Start-up, the dominant mode of communication was via informal face-to-face, unstructured, and small, relatively decreased socio-political dynamics and increased surprises, resulting in a dominant drive of coded: +R, +D. And finally, in Collaboration 5: Healthcare, the dominant mode of communication was via informal networked technology. It is informal in that peer-to-peer initiative is encouraged, and it is structured in that platforms are available to be accessed without permission and used as seen fit once the rules of the game are established. The openness to surprises results in a dominant drive coded as: +S, +D.

5.2. Theme B: Models - mapping relative workshops

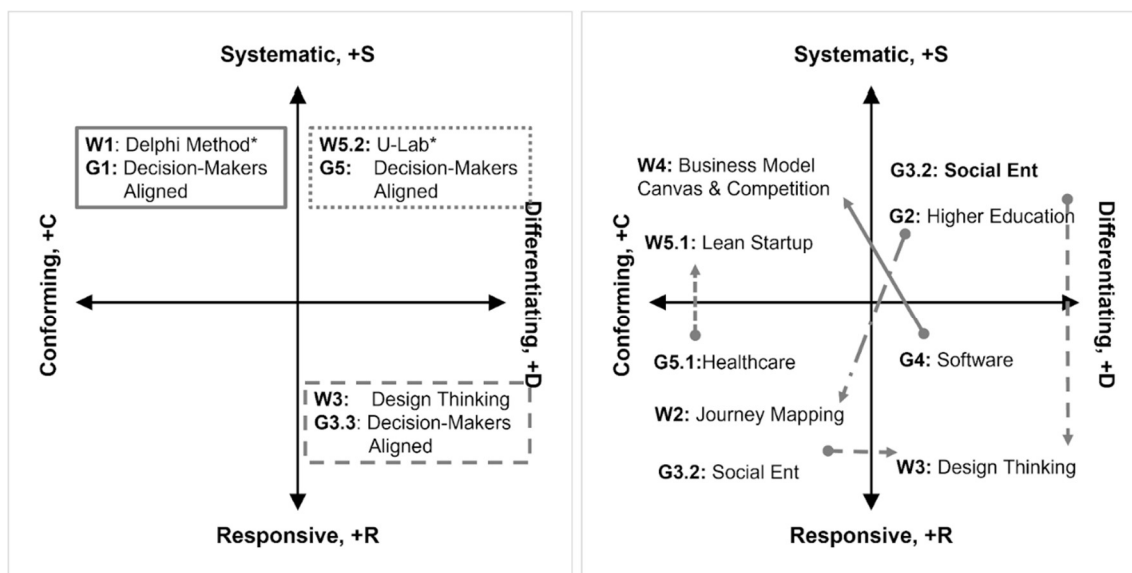


Figure 6. Theme B: Models – mapping workshops with higher buy-in vs. higher frustration

In 'theme B', the model allowed for the analysis of relativist categories. Specifically in this study, mapping the collaboration strategy workshops engaged in relative to the dominant values and interest stances the collaborations predominantly engaged in revealed a vivid example of how

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alignment or non-alignment transmutes or stifles progress in pursuit of collaborative solutions. A summary is depicted in Figure 6.

Outcomes with little to no frustration were observed when the strategic stances were aligned between the decision-makers and the philosophical underpinning of the workshop. This was the case in Collaborations 1 (Law), 5 (Workshop 2 with healthcare), and partially also Collaboration 3 (Social Entrepreneurs with Group 5). Measurable task outcomes on these aligned strategic stances also resulted more consistently in the workshop, informing the next iteration that gets implemented or developed further. In Collaborations 2 (Higher Education), 3 (Social Entrepreneurship), and 4 (Software Startup), frustration and friction were more evident when the strategic stances did not align. Measurable task outcomes on these non-aligned strategic stances also resulted in higher-level decision-makers not necessarily being prepared to commit to the workshop outcomes.

5.3. Theme C: Momentum – dynamic trajectory of strategies over time

In ‘theme C’, the momentum over time allowed for the analysis of trajectories with which the strategic stances transformed the central idea over time. Specifically, in this study, mapping the eight bigger impact moments’ dominant decision-making codes in relation to each other over several years, we gain insight into what type of learning and evolution trajectory the collaboration is on. A summary is depicted in the preceding section’s Table 4.1-4.5.

One of the clearest and most consistent examples of collaboration’s transformation over time based on a single strategic stance drive had been that of Collaboration 1’s Corporate Contract Council (C1), making use of systematic rational processes (+S, +C). Even in scaling new industry challenges (+L) over time, they return to the strategic stance that served them in the preceding innovation and thereby minimize risk, and thereby making small incremental but consistent progress in innovation. Comparatively less clear Collaboration 2 Higher Education’s

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strategic stances do change over time. Fundamentally, we observe the clearer institutional hierarchy (+R, +C) win out even when most of the idea drivers/developers have provided evidence of being +S, +D, strategists, explicitly to protect the interests of in-group institutional prestige and preserving position within the institutional hierarchy. Though the higher education sector is involved with Collaboration 3's Social Entrepreneur (C3), it is more of an inter-organization mesh of several fields. C3 snapshots capture the movement of an idea progressing along in a tug of war between two adjacent strategic stances of striving to be +R, +D, but repeatedly defaulting into bounded rationality (+R, +C.) Like Collaboration 2 there is a hierarchy, albeit a shadow hierarchy, that ultimately reveals who carries the bigger stick and controls the funding and represents the more powerful local entities even when the Collaboration aspires to serve those with less power. Low levels of technical expertise force Collaboration 4, the Software Startup, into a similar fate as Collaboration 3 of being forced by necessity to launch from a lower power responsive and differentiating stance (+R, +D). Over time, dominant strategic stances are coded: +R, +D, +C, and repeatedly we see Collaboration 4 progressing from a point of emergence to a control-seeking function and then stopping to start a new journey anew without technically integrated progress. Finally, Collaboration 5's Healthcare cohort presents the best depiction of creating a Systematic and Differentiating stance (+S, +D) with the risk of cannibalizing its own preceding evolutions. C5 snapshots capture the movement of an idea by intentionally exploring models in every strategic stance iteration, actively in search of the development of the best option.

The M³ study's findings confirm the presence of strategic decision-making stances that invite or caution against higher levels of ambiguity and thrive under uncertainty. In the context of social realism, it confirms the model's capacity to absorb categorical, relational, and dynamic data.

6. DISCUSSION

The classic rational decision-making strategies (+Q1) popularized over the past three and a half centuries were expected to also be observed in this study. So too were the behavioral economic strategies (+Q2) gaining clout over the past half-century. Unsurprisingly, rich evidence emerged. Specifically of more note was the presence of improvisational strategies (+Q3), which have yet to make it into the dominant lexicon but have appeared in management literature over the last quarter century, and consilience strategies (+Q4), which fundamentally needed to be named and categorized as a meaningful quadrant for this study. Using the M³ codes, this discussion seeks to clarify each of the quadrants' practical purposes in collaborative decision-making.

6.1. Theme One: Classic Rational Decision-Making (+S, +C)

Classic rational decision-making was especially evident in Collaboration 1, with corporate contracting councils collaborating amongst each other in communication mediums, and frameworks with rules of engagement that they excel at in their everyday working conditions. In terms of 'theme A' (modes of communication) it was Collaboration 1 that most heavily relied on one-on-one emails, by removing non-verbal body language, intonation and tone of voice, office design, attire, and appearance that constitutes a sizable percentage of what constitutes bounded rationality, participants are forced to focus very narrowly on content of what is written in contracts. Add to that the anonymizing scrub of the data, and the result is a hyper-content-focused collaboration process.

In terms of 'theme B' (workshop stance relative to collaboration stance) there was three workshops across the full study that could be coded as predominantly taking a classic rational decision-making stance (W1: *Delphi Method*; W4: *Business Model Canvas* training and competition; and W5.1: *Lean Startup methodology*), but it was ultimately also Collaboration 1

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where the *Delphi Method*'s strategic stance aligned with the collaboration's mode and generally dominant stance that yielded the best result. Collaboration 4 (Software Startup) met the classic rational *Business Model Canvas* with frustration, and so did Collaboration 5 (Healthcare), which struggled with implementing the *Lean Startup Methodology* because the methodology demanded customer interviews wherein prospects rationally articulate post-trauma needs, which is actually a process you work towards in the process of healing.

In terms of 'theme C' (momentum over time), several important event snapshots highlighted a classic rationality (+S, +C) strategic stances. Collaboration 1 (Corporate Contract Counsel) succeeded by standards of making safe incremental progress, but both Collaboration 4 (Software Startup) and Collaboration 5 (Healthcare) point to a cautionary point in a project's progress where the explicit or implicit demand for classic rationality can paralyze progress as collaborators spin their wheels, making iterative technical improvement that leads nowhere. Collaboration 4 responded to this by going back to improvisational strategies several times, and Collaboration 5 pushed through to consilience strategies.

6.2. Theme Two: Bounded Rationality Decision-Making (+R, +C)

Behavioral decision-making was especially evident in Collaboration 2 (Higher Education), yet it made use of a richer cross-section of communication mediums and strategic stances over the course of its multi-year development. In terms of 'theme A' (modes of communication) it most dominantly hosted steering committee meetings, and a series of different feedback workshops. This brought sizable groups of key stakeholders from different departments together in highly structured interactions. It also sets a tight agenda of what information would be communicated. This accomplished at least two things: (i) It trained stakeholders on the expected behavior, topics of importance, and appropriate conduct in the hierarchy of the organization, and (ii) if key stakeholders return to their respective departments and copy the structure and share the information. This network effect of socialization has the

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capacity to occur down the hierarchy chain of command and control, and in many cases may be celebrated in larger organizations where risk and deviation from the norm are strategic stances to be minimized.

In terms of ‘theme B’ (workshop stance relative to collaboration stance) only Workshop 2, the Customer Journey Mapping workshop, embodied the principles of bounded rationality decision-making. Though aligned with the dominant stance of Collaboration 2 (Higher Education) in the same quadrant, the workshop participants that were invited predominantly represented alpha movers who were ultimately frustrated because the principles of the workshop did not tap into their interest in experimenting with novel approaches (+S, +D). This also resulted in the decision-makers in the hierarchy not acting on the workshop’s outcome deliverables.

This is, however, not the case in Collaboration 3. Though the Design Thinking workshop is constructed from an improvised decision-making under uncertainty strategic stance (+R, +D), it left itself wide open and vulnerable to controlled socio-political interference (+R, +C). And that is exactly what happened. So, Collaboration 2’s stakeholders respond and conform to ‘the rules of the game’. Collaboration 3’s strategic decision-makers may (unadvisedly) stack the deck in their favor by (inadvertently) stating ‘different rules of the game’ to workshop participants, while strategic decision-makers still (inadvertently) play by a different set of rules to ensure key decision-makers benefit (or maintain interest) in the development of the result. To unpack, specifically in the case of Collaboration 3 some stakeholders decided before the workshop that an ‘accelerator’ would serve their best interest (Snapshot 3), during the workshop (Snapshot 4) some people developed the idea, and after the workshop (Snapshot 5) the group of decision-makers (inadvertently) maintained the perception that was the best idea and carried forward an iteration of the idea ‘accelerator-maker space’ when in fact that was not even an idea that the workshop participants developed.

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Apart from Collaboration 2 and 3, where bounded rationality (+R, +C) strategic stances dominated behavioral decision-making snapshots, other collaborations also featured it at important moments. Specifically, in Collaboration 4 (Software Startup) and 5 (Healthcare), the bounded rationality snapshots could also be referred to as glamor shots, as they depicted the project as more prestigious and special. Snapshots involves cultural capital artifacts (e.g. \$10-million-dollar chandelier), locations (e.g. biggest Fire Training College, biggest Hospital in Europe) people (e.g. professor emeritus getting involved) and in the modern day and age social network equity (e.g. top 10 article or 45K likes on YouTube) that sets the collaboration's idea on a hierarchy as superior by affiliation and possibly also spurred some momentum. But despite this glamor by association, a cautionary note is needed. Since bounded rationality is often cast as subservient to rationality because it relies on mental shortcuts and may happen below the consciousness threshold of awareness, mapping others' trajectories and strategic stances regarding responsive and conforming (+R, +C) may be perceived as less flattering. A strategic decision-maker may also downright deny occupying this field in order to not be socio-politically painted as manipulative or gullible. Yet, regardless of whether it happens above or below the conscious threshold, this field is the essence of political sophistication in building critical mass, trust, and loyalty to move a project to its next iteration.

6.3. Theme Three: Improvisational Decision-Making (+R, +D)

Improvisation decision-making was especially evident when comparing real-time responsive collaborations like C2, C3, and C4. Here, the differences can be used to understand how higher uncertainty embracing strategic stances differs from more control or conforming stances. In terms of 'theme A' (modes of communication), both Collaboration 2 (in the predominantly bound rational decision-making operating mode) and Collaboration 3 and 4 (which had a stronger association of improvisational decision-making) relied heavily on non-verbal body language, intonation and tone of voice, office design, attire, and appearance.

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However, different from Collaboration 2, the more improvisational Collaboration 3 & 4 shrinks the group sizes and increases the informality to increase capacity to be able to deal with unexpected information, ideas, or surprises.

Collaboration 3 (Social Entrepreneurs)'s entrepreneurial innovators opted for communication media that were relatively more time-consuming, as priorities of different stakeholders over whom there was no direct control needed to align. Similarly, Collaboration 4 (Software Startup) was also less cost-effective as geographic dispersion was not treated with cheap and easy, time-saving technology, but hundreds of hours were spent on the road to ensure face-to-face contact was maintained. In both Collaboration 3 & 4, a deliberate premium was put on remaining flexible in the early stages. Maintaining this level of flexibility with financial or other return on investment is, however, not a sustainable position.

In terms of 'theme B (workshop stance relative to collaboration stance), only the Design Thinking Workshop (in Collaboration 3: Social Entrepreneurs) embodied the improvisational decision-making philosophy of being responsive and differentiating. As was discussed in the bounded rationality section, the stance was ultimately (possibly unintentionally) hijacked by bounded rationality (+R, +C). It is, however, worth noting that a subgroup of workshop participants (G3.5) committed to following through on the improvisational iterations of the idea that was generated. The major finding on the outcome of this subgroup, who actively engaged in the true spirit of Design Thinking (+R, +D), was that the enthusiasm died off within days after the workshop. It would be curious to speculate if that would have been different if a nudge from decision-makers in power and/or resources that were available had been made accessible to this specific group.

In terms of 'theme C' (momentum over time), the study observed that though Collaboration 4 (Software Startup) launched almost every new opportunity with responsive and differentiation snapshots (+R, +D), the same improvisational energy was also captured in other collaborations as important moments when strategic stances changed over time. Most notably,

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improvisation occurred very often in Collaboration 3, as was characterized by the long lead time waiting for windows of opportunity to align. Also, the short characteristic emails that were informed without context, informal tone, and jokes in small impromptu gatherings increased the chances of spontaneous emergence of new and different ideas.

Collaboration 5 (Healthcare) embarked on uncharacteristically unexpected improvisation by throwing together a community event for hundreds of the most influential leaders and raising thousands of dollars on short notice. It can, however, be speculated that the reason Collaboration 5's strategic decision-making team succeeded was that, as a Mayor's brand equity (+R, +C) was high enough to allow for shortcuts through the systematic channels (+S), board approval due diligence, media coverage vetting, and other formal channels for establishing trust and loyalty were already established.

6.4. Theme Four: Consilience Decision-Making (+S, +D)

Consilience decision-making was especially evident in Collaboration 5 (Healthcare), but because so many questions surround this theme, this discussion will be best served by juxtaposing consilience qualities relative to other adjacent themes. Collaboration 5 is furthermore not a pure example of the stance, so tempering the extrapolations is important.

In terms of 'theme A' (modes of communication) Collaboration 5 (Healthcare) was similar to Collaboration 1 (Corporate Counsel) in its use of technology, but whereas Collaboration 1 relied predominantly on one-to-one asynchronous technology (e.g. email), Collaboration 5 heightens the scope with a one-to-many supercharge in asynchronous technology (e.g. email. Slack) as well as peer-to-peer technology (e.g. Zoom, Facebook,) resulting in a network-effect of many-to-many resulting in peer support and new subgroups being formed. Specifically, it is worth noting how the control of Collaboration 1 is replaced with differentiation and empowerment that allow the network to support each other on the provided platforms with minimal interference from an intermediary.

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In terms of ‘theme B (workshop stance relative to collaboration stance), only the U-Theory workshop aligns with the disruptive strategic stance of being systematic as well as differentiating (+S, +D). Here, it was only after wrestling with workshop frameworks like Lean Startup Methodology (+S, +C), which did not fit the values and interests of the entrepreneurial innovation collaboration, and it was only after connecting with an ‘open heart’, open mind’, and ‘open soul’ that U-Theory was able to propel forward.

In terms of ‘theme C’ (momentum over time), it is appropriate to specifically specify which collaborations clearly did not engage with a differentiated (+D) story arc. Many Entrepreneurial textbooks refer to the differentiated arch as a BHAG: Big Hairy Audacious Goal. This goal is supposed to propel the entrepreneurial coalition to its next grand level. However, it is also clear that some collaborations, like 1 and 2, very purposefully rejected that strategic stance.

In a room full of lawyers, Collaboration 1’s Project Architect explicitly shut down an expression of interest in a bolder strategy to revolutionize complex contracting by expressing that even if the elephant is big, you eat it “one bite at a time. Likewise in Collaboration 2 VP of Teaching and Learning reinforced clearly in one meeting that we are looking to pick the “low hanging fruit”. And because of the power and influence that both these individuals held over the initiative’s development, these words and strategic stances discouraged collaborators from introducing higher-level differentiation strategies, hedging on the expectation of conforming and exploiting the power available at the time. Conversely, we witness in Collaboration 3 (Social Entrepreneurs) a need for a big, dramatic vision to also serve as a generator for several more platforms of innovation (+S, +D). Ultimately however it appeared that the different stakeholders each had their own respective BHAG: Social Entrepreneurs wanted to combat ‘multigenerational unemployment’ due to drug abuse, academics wanted to negotiate research access to trophy projects, city council prioritized ‘shiny buildings’, private sector building contract and consulting fees, and the target social enterprise just wanted to find £45,000 of

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funding over the next 90 days or else their doors would close. Ultimately, on this project, the different big goals were not able to be successfully integrated in the allotted time.

Collaboration 4 similarly aspires to introduce a software platform that has the capacity to revolutionize the way health & safety is done at a fraction of the cost and an interconnected network of accountability and lifelong training (+S, +D). Yet in this collaboration's situation, priority is given to deliverables that have been crafted with perfection (+S, +C). Even in Collaboration 5, where an unexpected turn of events resulted in the emergence of a solution that embodies the emergence of hyper realism (+S, +D), it could also be said that key strategic decision-makers are all over the map with their strategic stance. Though they are cognizant of the impact that the evolution of the idea has on cannibalizing their existing steady stream of income, they are visibly energized about the long-term potential of the initiative on a much larger scale over a longer period.

Ultimately, while Collaborations 1 and 2 very intentionally did not want to move with a big, risky vision, Collaborations 3 and 4 were thwarted by misaligning the values and interests of the various stakeholders. It was Collaboration 5 (Health Care) who travels a journey, and it is the only initiative that evolved into taking a revolutionary position. However, over the course of several years, it has not found the vocabulary or temperament to express an audacious vision with a clear statement publicly, either.

6.5. Limitations

Though this study may be attempting the BHAG of introducing both a new epistemology and practitioner framework for entrepreneurial innovators collaborating on complex problems, the study does have its limitations. First and foremost, the conceptual study of over 200 seminal decision-making models commonly used in management in relation to the M³ model (Roelofse, 2017) cannot be submitted in a single manuscript due to standard length constraints. It may also be appropriate to call for a higher number of emergent innovation observations, but likewise, a

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standard scholarly paper would struggle to integrate the findings under space constraints. Fieldwork bias is a further common concern of confessional ethnographies. Apart from the three levels of triangulation and feedback loops mentioned in the methodology section, one quality control measure that could be traced is to evaluate the writing for evidence of preference of one strategic stance over another in the discussion and findings relative to the strategic stance as the embedded participant researcher. If each strategic stance is couched as having a unique and valuable contribution, it could mitigate the bias. Finally, the socio-political pressure to represent all 200+ participants respectfully, if there is a feedback loop, may have celebrated good, dramatic, and interesting qualities over weaknesses in the descriptions. But ultimately, this was a deviance sample, and augmenting those unique qualities also serves in understanding the more ambitious and revolutionary solutions that some more complex problems may demand.

7. CONCLUSION & IMPLICATIONS

What started out as an inquiry into inter-organizational collaboration in early stages of entrepreneurial innovation to articulate conditions that give rise to emergent innovation ultimately resulted in a descriptive theory capable of integrating modes, models, and momentum, and a new epistemology being introduced into management studies. Philosophically, this thesis commenced with an audacious utopian philosophical thought experiment expressed by British philosopher William Whewell about a century and a half ago. In Whewell's description of a 'consilience of inductions' (1849), he attempts to conceive of a process by which an induction, obtained from one class of facts, coincides with an induction obtained from a different class. Thus, consilience is a test of the truth of the theory in which it occurs (1840:74). Similarly, in response to O.E. Wilson's bestseller "Consilience: The Unity of Knowledge" (1997), biologist, H. Allen Orr pens a challenging review in the Boston Review (1998) claiming that the book discussing the philosophical consilience lacked empirical data as a backbone because it did not engage with evidence on how innovators truly collaborate across

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integrative fields to solve more complex problems. This study answers the call for a more thoughtful and explicit account of the collaboration processes leading to the emergent phenomena of innovation as a desirable outcome for consilience. Wilson's work primarily focused on the natural science part of complex problems like the 'environmental crisis,' but without a collaborator on the social science part, his theory remained primarily theoretical. Wilson's theoretical premise could be summarized as: "If economists and ecologists should put their heads together to incorporate measures of environmental health into traditional economic indices, they should be able to come up with solutions that do not involve the collapse of social science."

Historically, the social science aspect of collaboration and collective decision-making (or problem solving) had been overrun by research on power dynamics and the philosophical underpinnings of Pierre Bourdieu and Stewart Clegg. For half a decade, bound rationality theorists and their theory contributors have amassed a body of knowledge on how the social hierarchy, not the objective and detached weighing of facts, will dictate the strategic direction and degree of creativity in the innovation of their actions. This study bears testament to it, too. However, it is in the irreverent, playful, ambitious (often divergent) field of entrepreneurship that this study primarily expects collaborators and actors with less power to figure out how to navigate the 'rules of the game' and emerge with solutions that can have a positive impact on the world.

The five real-time international ethnographies over several years revealed that the concept of entrepreneurial innovation through consilience strategic decision-making does exist via Healthcare Collaboration (5) and is rationalized retrospectively. However, to achieve it, both classic rational and bounded rational strategic decision-making philosophies remain necessary and important. The empirical data also revealed that an additional higher-risk innovation model group exists, as was observed and classified as improvisational strategy decision-making under uncertainty. Neither the Social Entrepreneurship (Collaboration 3) nor the Software Start-up

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(Collaboration 4), however, remained in that single mode for an extended period of time. It also becomes apparent that the mode of short-term decision-making also builds longer-term value. As expected, Classic Rational (Collaboration 1) and bounded rational (Collaboration 2) Strategic Decision-Making also existed and provided helpful comparative baseline points for assembling and illuminating complexities and interdependencies associated with each of the four types of Strategic Decision-Making, modes, models, and momentum.

7.1. Practical Implications

The practical implications of the study can be used to inform strategic decision-making during entrepreneurial innovation collaborations. By identifying personal and organizational strategic modes, models, and momentum on the type of change they are fundamentally pursuing, leaders can more purposefully align things like communication modes, workshop frameworks, models, and momentum over time to align with a purposeful socio-cognitive strategic position.

Additionally, the theory can help inform more purposeful selection and process design when thinking about collaborators lower on the social hierarchy. Via the choice in intermediary facilitators of the process, users can increase the purposeful generation and development of solutions for the right type of change at the right time.

This theory can also be used by a variety of strategic decision-makers: with researchers, those doing grant applications, ethics approval paperwork, or engaging with data and writing papers or books can use the vocabulary and framework to steer into unknown and unknowable territory with less penalty and more reward. Each decision-maker also stands to benefit from the framework as it applies to scoping and tracing unknown unknowns. To them, the model provides a canvas to help anticipate particularities of small sample sizes, over-reliance on non-representative populations, and perceptions of social conformity that may not align with behavior.

7.2. Theoretical Implications

Fundamentally, the model offers an integrative framework within which entrepreneurial innovators' strategic decision-makers and collaborations can be conceived with higher levels of clarity and an expanded vocabulary for addressing components associated with higher levels of complexity. Specifically, the model subsumes the field of innovation, change management, and decision-making, and maps well-developed but disparate concepts in meaningful relation to one another.

Adopting and extending the epistemology of Social Realism from Sociology, the M³ Theory also makes new theoretical inroads in management literature. By being able to frame knowledge that is simultaneously essentialist and relativist, richer layers of information can simultaneously be represented in the plotting of a statistical stance.

In connecting with Thomas S. Kuhn's (1962) *The Structure of Scientific Revolutions*, the strategic decision-maker's challenge is to intellectually (+S) and effectively (+R) navigate this territory between the known (+C) and unknown (+D). Similarly, in Soren Kierkegaard's (1843) *Fear and Trembling*, he challenges the authentic decision-makers to not try to be dichotomous, and work towards a balance between finite (+C) and infinite (+D). He defines the finite as the fixed conditions of everything we are. These are the facts of our existence that force us to live in certain ways: the needs of our body, the wiring of our brain, and the pull and push of necessity. Psychologically, it may also entail fitting into a group, a family, or a crowd, because that is where individuals think they will find themselves. They think that doing so is what it means to be a person. As this study warms the terrain of the infinite, Kierkegaard also amplifies the sirens' call of the infinite, because this is where the universe of potential lies - all the things we think we may someday become, a future set of possibilities with no set course laid out.

Though the center of knowable knowledge in a field will be well defined and appear safe and attractive, it cannot be assumed that there will always be enough space and resources for entrepreneurial innovators to remain in such a safe comfort zone of known knowledge with

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767 small incremental advances. Western capitalism, after all, rewards entrepreneurial innovators
768 based on risk and reward tradeoffs. Humanity is furthermore in need of solutions and research
769 paradigms for more complex problems. The M³ Codes offer a new paradigm and a new set of
770 tools to deal with the practical challenges of collaborating during uncertain and complex
771 entrepreneurial innovation, as well as scientific inquiry into collaborations to address
772 increasingly complex societal problems.

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